



Section 713.4 of the Uniform Building Code states that approved fire door hardware and fire door frames, including the anchorage thereof, shall be installed in accordance with their listing.

Several types of fire door assemblies are available. These include swinging fire doors with builders hardware (hinges, single-, two- and three-point locks and latches, top and bottom bolts, etc.), swinging fire doors with fire door hardware (surface-mounted strap hinges, latches, closing devices, etc.) and sliding fire doors (horizontal or vertical sliding or rolling steel).

Sills provide a necessary boundary at the bottom of approved fire doors, but they are not considered to be part of the fire door assembly itself. The National Fire Protection Agency (NFPA) publishes a Standard for Fire Doors and Windows known as NFPA 80 which regulates sill construction. The City of San Diego Development Services Department enforces NFPA 80 with several exceptions.

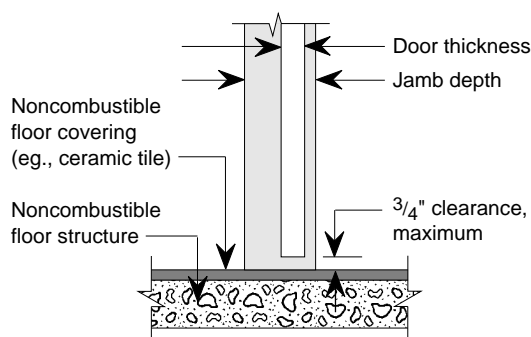
Following is a brief outline of department policy.

I. Basic Requirements

Some basic requirements exist for sill construction in fire door assemblies of all types. See Figure 1.

- A. Sills shall be constructed of noncombustible materials with one exception. Where one-hour fire-resistive corridor construction is required and door openings are protected by twenty-minute tight-fitting smoke- and draft-control assemblies, sills may be of combustible construction.

Case 1: Noncombustible floor structure with noncombustible floor covering



- B. In buildings with noncombustible floor structures, special sill construction shall not be required due to the floor structure if it is continuous through the door opening.

1. Noncombustible floor coverings may be continuous through the door opening, if desired. See Figure 1, Case 1.
2. A raised noncombustible sill is required when combustible floor coverings are to be used on one or both sides of the door opening. See Figure 1, Case 2.

- C. In buildings with combustible floor structures, provisions must be made for raised noncombustible sill construction if the floor structure is extended through the door opening.

1. A raised noncombustible sill is required when noncombustible floor coverings are to be used on one or both sides of the door opening. See Figure 1, Case 3.
2. A raised noncombustible sill is required when combustible floor coverings are to be used on one or both sides of the door opening. See Figure 1, Case 4.

II. Regulation of Sill Clearances

- A. Requirements are identical for swinging doors with builders hardware, swinging doors with fire door hardware, and horizontal or vertical sliding or rolling fire doors.

Case 2: Noncombustible floor structure with combustible floor covering

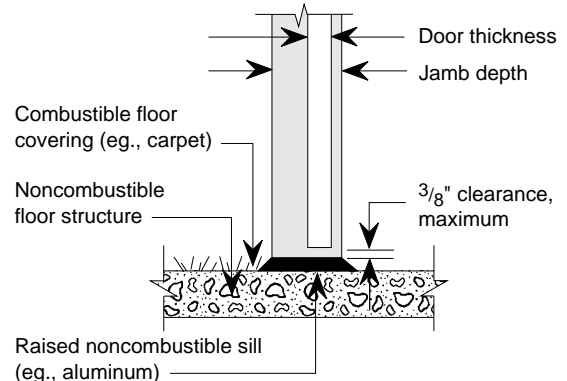
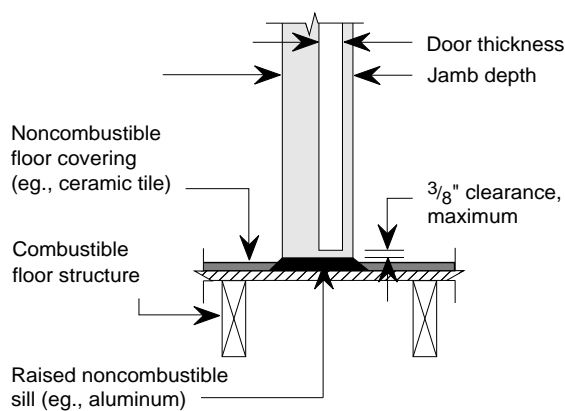
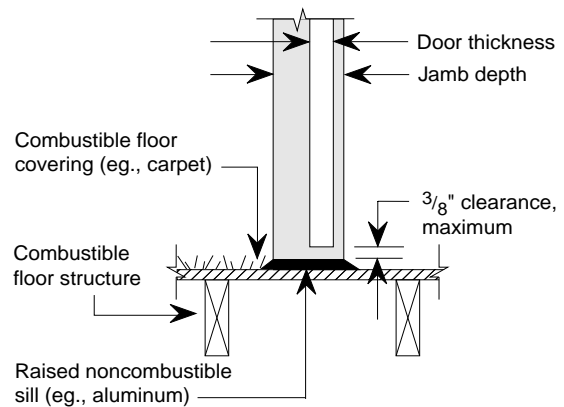


Figure 1/ (continued)**Case 3:** Combustible floor structure with noncombustible floor covering

1. If no sill is provided, the maximum clearance between the bottom of the door and the floor structure shall not exceed $\frac{3}{4}$ inch. See Figure 1, Case 1.

Case 4: Combustible floor structure with combustible floor covering

2. Clearance between the bottom of the door and a raised combustible or noncombustible sill shall not exceed $\frac{3}{8}$ inch. See Figure 1, Cases 2, 3 and 4.

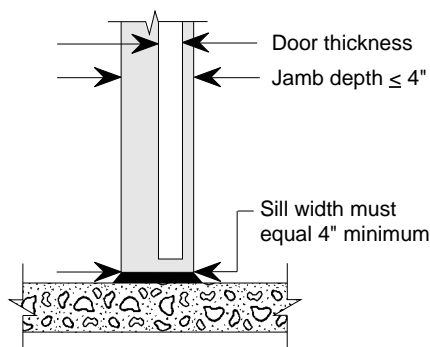
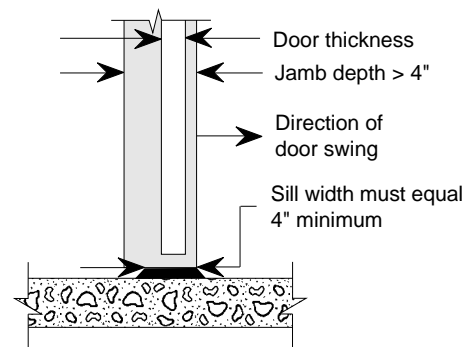
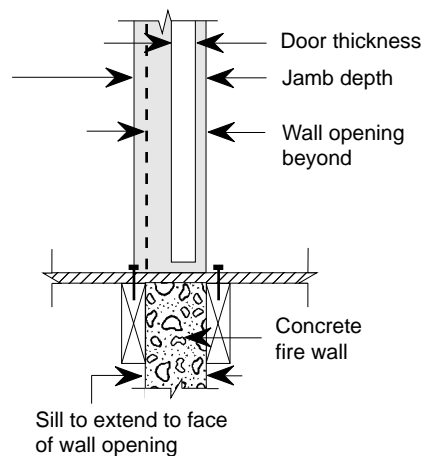
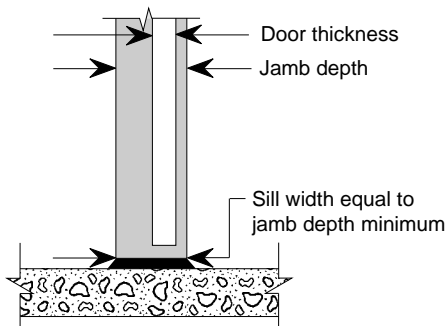
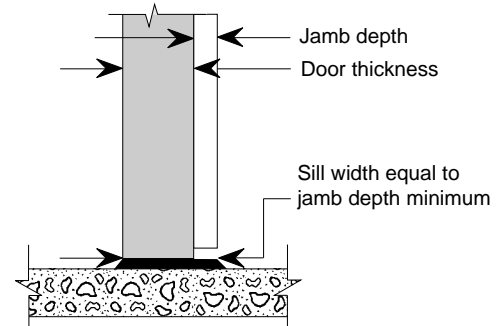
Figure 2/Swinging doors with builders hardware**Case 1:** Jamb depth 4 inches or less**Case 2:** Jamb depth greater than 4 inches**Case 3:** Concrete sill

Figure 3: Swinging doors with fire door hardware**Case 1: Flush-mounted doors****Case 2: Lap-mounted doors**

B. Rolling steel doors must be mounted with sufficient clearances to allow for expansion when exposed to fire.

III. Regulation of Sill Dimensions

A. Swinging doors with builders hardware must meet the following requirements.

1. Frames having a jamb depth of 4 inches or less shall have a sill width equal to the jamb depth. See Figure 2, Case 1.
2. If the jamb depth is greater than 4 inches, the sill shall have a minimum depth of 4 inches and shall be installed so that the sill extends from the face of the frame on the door side into the frame. See Figure 2, Case 2.
3. Flush concrete sills shall extend to the face of the wall opening on both sides. See Figure 2, Case 3.

B. Swinging doors with fire door hardware can be divided into two categories.

1. Flush-mounted doors shall have sills which extend at least the depth of the door frame. See Figure 3, Case 1.
2. Lap-mounted doors shall have sills which extend beyond the opening by an amount equal to the projection of the installed door. See Figure 3, Case 2.

C. All sliding fire doors shall have sills which extend 6 inches past the edge of the opening on each side and at least 4 inches out from the face of the wall on both sides. See Figure 4.

Figure 4: Sliding fire doors